AMENDMENTS TO THE CLAIMS

Claim 1 (currently amended): A method of augmenting activin-induced signaling in a cell comprising the step of:

inhibiting the formation of inhibin/betaglycan complexes on the surface of said cell by inhibition of expression of betaglycan in said cell.

Claims 2-3 (canceled).

Claim 4 (currently amended): The method of claim 1 [[3]], wherein expression of betaglycan is inhibited by an antisense transcript of betaglycan.

Claim 5 (currently amended): The method of claim 1 [[3]], wherein expression of betaglycan is inhibited by mutagenesis of at least one betaglycan alleles in said cell.

Claim 6 (original): The method of claim 5, wherein said betaglycan allele is mutated by homologous recombination.

Claim 7 (original): The method of claim 1, wherein said cell is a pituitary cell.

Claim 8 (original): The method of claim 7, wherein augmentation of activin signaling increases the production of Follicle Stimulating Hormone (FSH) by said cell.

Claim 9 (original): The method of claim 8, wherein said method enhances fertility.

Claim 10 (original): The method of claim 1, wherein said augmentation of activin signaling alleviates a pathophysiological condition in said cell.

Claim 11 (original): The method of claim 10, wherein said pathophysiological condition is selected from the group consisting of reproductive, developmental, skin, bone, hepatic, hematopoietic and central nervous system disorders.

Claim 12 (original): The method of claim 11, wherein said pathophysiological condition is prostate cancer.

Claims 13-14 (canceled).

Claim 15 (original): A method of inhibiting activin-induced signaling in a cell comprising the step of:

augmenting the formation of inhibin/betaglycan complexes on the surface of said cell.

Claim 16 (original): The method of claim 15, wherein formation of said inhibin/betaglycan complexes is augmented by increasing the expression of betaglycan in said cell.

Claim 17 (original): The method of claim 16, further comprising the step of administering additional inhibin to said cell.

Claim 18 (original): The method of claim 16 wherein betaglycan expression is increased by transfecting said cell with an artificial construct containing a betaglycan gene.

Claim 19 (original): The method of claim 18, wherein said betaglycan gene is constitutively expressed.

Claim 20 (original): The method of claim 18, wherein said betaglycan gene is expressed by an inducible promoter.

Claim 21 (original): The method of claim 18, wherein said method is used to introduce increased sensitivity to inhibin in a cell in which activin signaling is not normally affected by inhibin.

Claim 22 (original): The method of claim 15, wherein said inhibition of activin signaling alleviates a pathophysiological condition in said cell.

Claim 23 (original): The method of claim 22, wherein said pathophysiological condition is selected from the group consisting of reproductive, developmental, skin, bone, hepatic, hematopoietic and central nervous system disorders.

Claim 24 (original): The method of claim 23, wherein said pathophysiological condition is selected from the group consisting of gonadal cancer, adrenal cancer, and liver dysplasia.

Claim 25 (original): The method of claim 23 used to promoter liver regeneration in a damaged liver.

Claim 26 (original): A method of screening for a compound which inhibits the formation of inhibin/betaglycan complexes to augment activin signaling comprising the steps of:

a) incubating membranes from betaglycan expressing cells in both the presence and absence of said compound;

b) performing an assay which measures the binding of inhibin to betaglycan;

c) comparing the results of said assay on cell incubated with said compound to untreated cells, wherein a compound which inhibits the formation of inhibin/betaglycan complexes will result in lower levels of inhibin binding.

Claim 27 (original): The method of claim 26 wherein said is compound is selected from the group consisting of peptides, proteins, and small molecules.

Claim 28 (original): The method of claim 26 wherein said assay is a competition binding assay between labeled and unlabeled inhibin.

Claim 29 (original): A compound identified by the method of claim 26.

Claim 30 (original): A method of screening for a compound which augments the formation of inhibin/betaglycan complexes to inhibit activin signaling comprising the steps of:

a) incubating membranes from betaglycan expressing cells in both the presence and absence of said compound;

b) performing an assay which measures the binding of inhibin to betaglycan.

c) comparing the results of said assay on cells incubated with said compound to untreated cells, wherein a compound which augments the formation of inhibin/betaglycan complexes will result in higher levels of inhibin binding.

Claim 31 (original): The method of claim 30 wherein said is compound is selected from the group consisting of peptides, proteins, and small molecules.

Claim 32 (original): The method of claim 30 wherein said assay is a competition binding assay between labeled and unlabeled inhibin.

Claim 33 (original): A compound identified by the method of claim 30.